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State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director



December 27, 1994

Mr. Michael J. Ackerman
Chief, Environmental Branch
AFZA-DW-DV
Fort Bragg, NC 28307

RE: Permanent Methane Monitoring Plan, Fort Bragg
Landfill Transition Plan, Permit No. 26-02

Mr. Ackerman:

In accordance with 15A NCAC 13B .1626(4), owners or operators of all municipal solid waste landfill (MSWLF) units must implement a permanent methane monitoring program on or before October 9, 1994. The permanent methane monitoring plan in the referenced transition plan includes the frequency of testing, test procedure, and a response plan for situations in which methane gas levels are exceeded, in addition to, proposed well locations, depth, and construction.


In accordance with North Carolina General Statute §130A-294 and North Carolina Solid Waste Management Rules, 15A NCAC 13B .1603(d)(2)(B), partial transition plan approval of the Gas Monitoring Plan is hereby approved. This partial approval is valid only until such time as the full transition plan is approved by the Division of Solid Waste Management.

If you have any questions regarding this matter, please contact Susan Wright at (919) 733-0692.

Thank you,


Susan J. Wright
Environmental Engineer

Approved:


James C. Coffey
Supervisor, Permitting Branch
Solid Waste Section

cc: Edward R. Collins, Jr. - RS & H
Ikke Guyton - DSWM
Terry Dover - DSWM

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State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management



James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director

September 23, 1994

Mr. Steve McMull
Environmental Branch
AFZA-DW-DV
Fort Bragg, NC 28307

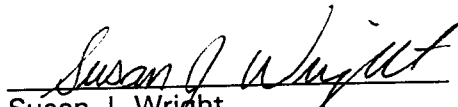
RE: Permanent Methane Monitoring Plan, Fort Bragg
Landfill Transition Plan, Permit No. 26-02

Mr. McMull:

In accordance with 15A NCAC 13B .1626(4), owners or operators of all municipal solid waste landfill (MSWLF) units must implement a permanent methane monitoring program on or before October 9, 1994. The Solid Waste Section has not received the final gas monitoring design documents referred to in the transition plan.

Please submit requested information to the Section as soon as possible to expedite review of the referenced transition plan application. If you have any questions regarding this matter, please contact me at (919) 733-0692.

Sincerely,


Susan J. Wright
Environmental Engineer

cc: Keith V. Broderick - RS & H
Isiah Guyton - DSWM
Terry Dover - DSWM

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State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director



Bills

July 29, 1994

Mr. Steve McMull
Environmental Branch
AFZA-DW-DV
Fort Bragg, N.C. 28307

RE: Interim Review Of Water Quality Monitoring Transition Plan
Fort Bragg Sanitary Landfill, Permit # 26-02

Dear Mr. McMull,

There is limited time available for the Solid Waste Section to review and evaluate the Water Quality Monitoring Plan submitted as part of the Transition Plan. It is not possible to do a full technical review of this plan in time to allow for the upgrading of the monitoring system and the initial sampling episode of the baseline sampling event.

Therefore the Solid Waste Section is giving interim authorization for Fort Bragg to proceed with the upgrade of the ground-water monitoring system and begin the baseline sampling at the Fort Bragg MSWLF facility. **However, the monitoring system upgrade must meet the following conditions:**

The Transition Plan proposed two additional monitoring wells at the landfill. However since none of the existing monitoring wells are located, designed, or constructed in a manner that conforms to the rules and policies of the Solid Waste Section, the present monitoring system needs to be replaced.

New monitoring wells should be installed in the same general vicinity as the existing wells, except the new wells must be located from 100 to 150 feet from the waste boundary. Additional monitoring wells are also needed at two other locations as indicated on the attached map.

The monitoring wells are to be constructed according to the specifications in the North Carolina Well Construction Standards (15A NCAC 2C .0108).

The monitoring wells are to be constructed according to the specifications in the "North Carolina Water Quality Monitoring Guidance Document For Solid Waste Facilities" as illustrated by the Typical Monitoring Well Schematic" diagram enclosed.

The monitoring wells are to be placed in the approved locations in areas free of garbage, refuse, or debris, and in areas not subject to flooding.

The monitoring wells are to be drilled to a depth, and the screens placed at vertical locations, that will ensure that future drought conditions, which may lower the water table, will not render the monitoring system ineffective.

All monitoring wells should be installed with 2 inch inside diameter well casing.

Generally shallow monitoring wells shall be installed with a 15 foot screen, with the top of the screen set just above the seasonal high water table, unless hydrogeologic conditions justify changes in this design.

The sand pack should extend no more than 2 feet above the screen and no more than 1 foot below the screen. A bentonite seal of at least 1.0 foot should be installed above the screened interval. The bentonite shall be allowed adequate time to hydrate prior to grouting up the annular space of the well above the bentonite seal.

Monitoring wells shall be thoroughly developed after construction in order to reduce suspended solids, flush out the well, and re-establish equilibrium with the aquifer.

If any significant perched water tables are encountered, then well nests should be constructed that include a well to monitor the perched zone at these locations.

After the new monitoring wells have been installed, the old monitoring wells should be abandoned according to the procedures for permanent abandonment of wells, 15A NCAC 2C .0113(a)(2).

In addition to the water quality analytical data, the initial baseline sampling report must include for each monitoring well the following information: a Well Completion Record, Well Schematic Diagram, boring log, hydraulic conductivity value, porosity value, effective porosity value, and the direction and rate of groundwater flow. **This initial baseline sampling report must be received in the Solid Waste Section office on or before October 9, 1994.** The technical review and determination of adequacy of the Transition Plan Water Quality Monitoring Plan will not be completed until after the initial baseline sampling document has been received and reviewed by the Solid Waste Section.

The water quality sampling and analysis for the baseline sampling must be done according to the directives in the June 24, 1994, memorandum from the Solid Waste Section to MSWLF owners and operators.

If you have any questions or comments regarding this conditional interim authorization to install monitoring wells as necessary to upgrade the monitoring system at the Fort Bragg Landfill, please contact the Solid Waste Section at (919) 733-0692.

Sincerely,

Bobby Lutfy

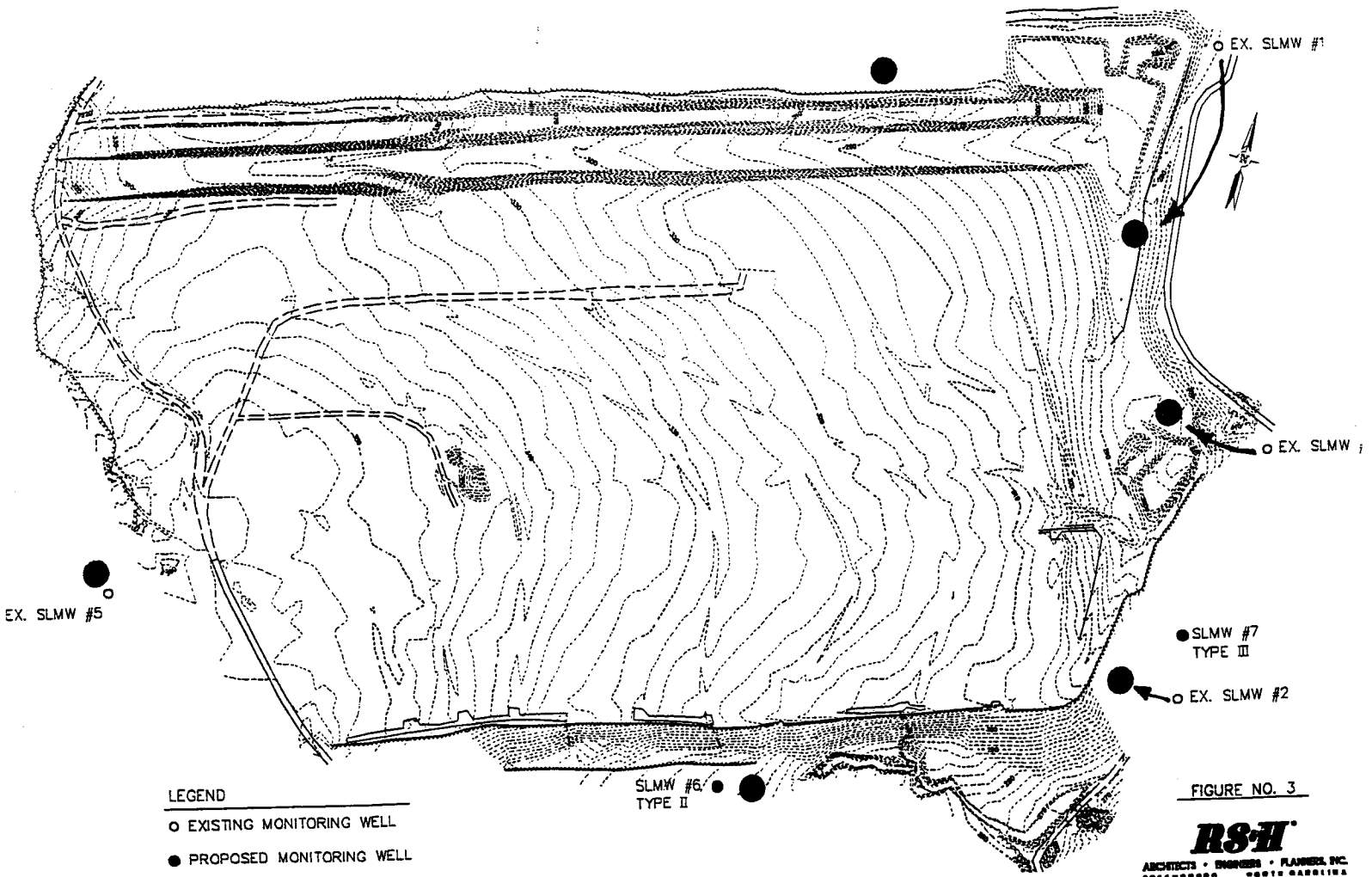
Bobby Lutfy
Hydrogeologist
Solid Waste Section

cc: Bill Sessoms
Ikie Guyton
Keith Broderick

Attachments

FORT BRAGG

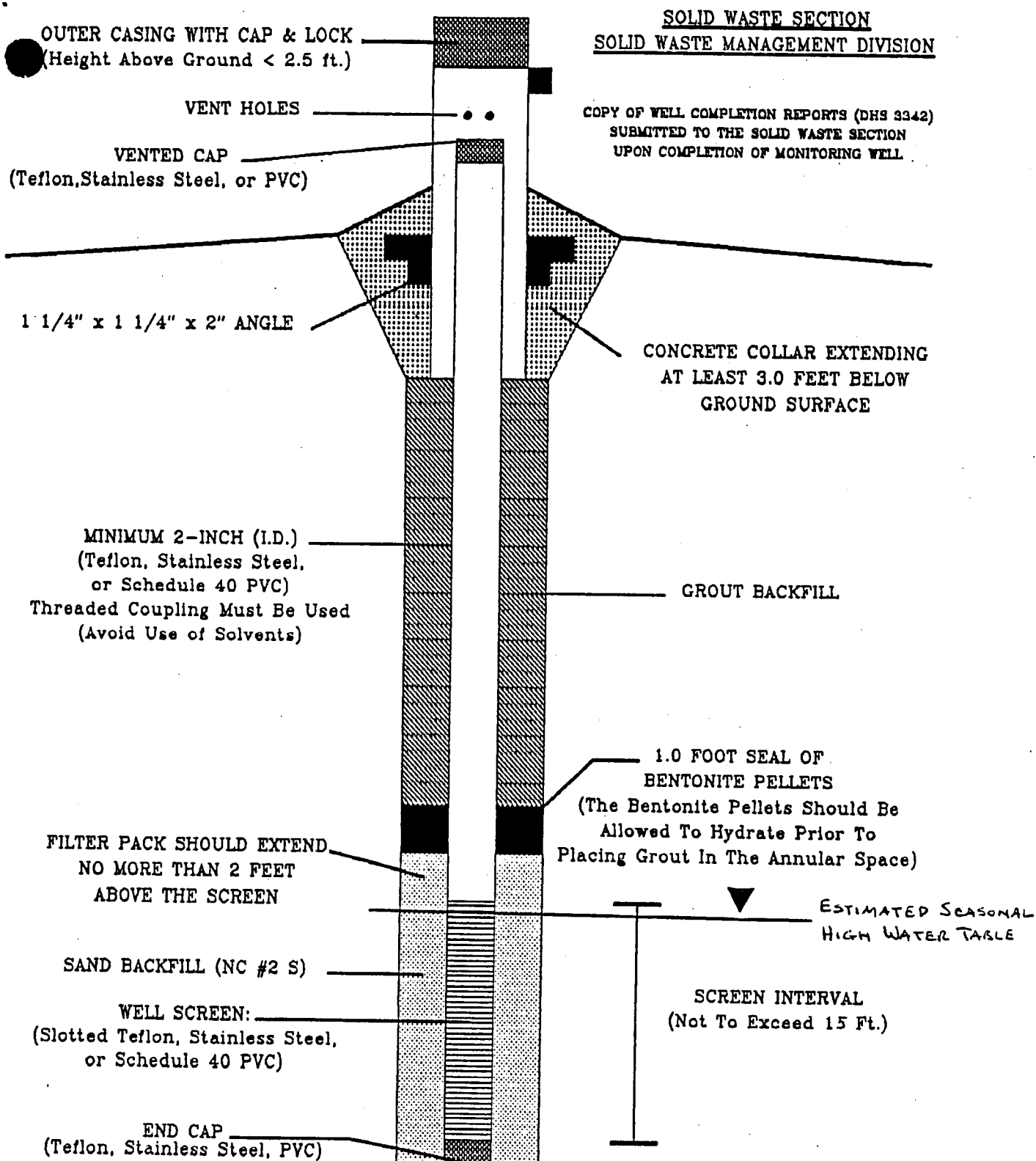
26-02



Wells must be located from 100 to 150 ft. from the waste boundary.

● Well locations.

TYPICAL MONITORING WELL SCHEMATIC



State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director



May 31, 1994

Mr. Steve McMull
Environmental Branch
AFZA-DW-DV
Fort Bragg, NC 28307

Dear Mr. McMull:

We have received your Transition Plan from Keith Broderick of RS&H Architects•Engineers•Planners, Inc. The Fort Bragg Landfill, Permit #26-02, is no longer in violation of 15A N.C. Admin. Code 13B .1617 (d) in that the transition plan was submitted to the Solid Waste Section on May 19, 1994. The transition plan will undergo a technical review for approval at a later date.

Sincerely,

Dexter R. Matthews, Chief
Solid Waste Section

cc: Phil Prete
Jim Coffey
Terry Dover
Isiah Guyton

26-02
AMBERLAND

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



April 19, 1994

MEMORANDUM

TO: Landfill Operators

FROM: Dexter R. Matthews, Chief
Solid Waste Section

DRM

SUBJECT: Recordkeeping Requirements for MSWLFS

This is to remind all MSWLF facility operators that certain elements of transition plans for existing facilities are included in required recordkeeping effective April 9, 1994. These elements and other required records must be kept at the facility and available for inspection by section personnel.

For your convenience, I am enclosing a list of the record keeping requirements for MSW Landfills.

OPERATING RECORD INCLUDES:

1. Outline of waste screening program for detecting and preventing disposal of hazardous waste, liquid waste, P.C.B. waste, and banned items.
2. Records of screening inspections.
3. Outline of training of facility personnel to recognize liquid waste, hazardous waste, P.C.B. waste and banned items.
4. Waste determination records.
5. Amounts by weight of solid waste received at the facility to include source of generation.
6. Gas monitoring results and any remediation plans required. (Recommend written description of monitoring program.)
7. Any demonstration, certification, finding, monitoring, testing, or analytical data required by rules .1630 through .1637 of this section. (see attachment)
8. Any monitoring, testing, or analytical data as required by rule .1627 of this section.
9. Any cost estimates and financial assurance documentation required by Rule .1628 of this section. (see attachment)
10. Any demonstration that a site located within 5,000 ft. of an airport used by only piston powered aircraft or within 10,000 ft. of a runway used by turbine powered aircraft does not pose bird hazard to aircraft as required by rule .1622(1)(C) of this section.

OTHER REQUIRED RECORDKEEPING

1. Contingency Plan.
2. Records required by 40 CFR 61 (asbestos rules).
3. Scrap Tire Certification Forms (scrap tire collection, processing and disposal sites).
4. Operation Plan.
5. Leachate Management Plan .1626(12) (sites with leachate collection system only).

6. Inspection reports of above ground leachate storage tanks (if applicable) .1680(C)(5).
7. Inspection reports of underground leachate storage tanks (if applicable) .1680(D)(5).
8. Records of all monitoring information required by the Permit .1604(2)(K)(ii).

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Inspection Checklist For Rules .1630 - .1637

- .1631(b)(1) Documentation from the Division of approval for the design, installation, development, and decommission of any monitoring well or piezometer.
- *.1631(d)(2) A copy of the approved monitoring plan, including information on the number, spacing, location, and design of the monitoring wells.
- *.1632(a) A copy of the approved ground-water sampling and analysis plan, including procedures and techniques for: sample collection, sample preservation and shipment, analytical procedures, chain of custody, and quality assurance and quality control.
- *.1632(j) For each sampling event, a report that includes all information from each sampling event, including: field observations, field data, laboratory data, statistical analysis, sampling methodologies, QA/QC data, ground-water flow directions and rates for each monitoring well, and for each well any constituents that exceed groundwater standards or show a statistically significant increase over background levels.
- .1633(c)(1) A notice indicating which constituents have shown statistically significant changes from background levels.
- .1633(c)(3) A report documenting any demonstration that statistically significant increases resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality or that a source other than a MSWLF unit caused the contamination.

- .1634(d)(1) A notice identifying the Appendix II constituents that have been detected.
- .1634(d)(2) A report from each sampling event.
- .1634(g) A notice if one or more Appendix II constituents are detected at statistically significant levels above the approved ground-water protection standards in any sampling event.
- .1634(g)(2) A report documenting any demonstration that statistically significant increases resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality or that a source other than a MSWLF unit caused the contamination.
- .1636(a) Any permit modification necessary to document the selection of remedy based on the results of the corrective measures assessment.
- .1637(c)(4) Any report justifying alternative (corrective) measures.
- .1637(f) A report documenting that the (corrective action) remedy has been completed.

NOTE: The need for most of this information is based upon different stages of ground-water investigation and will not be required for all facilities. Initially, all facilities will be responsible for having an approved monitoring plan, .1631(d)(2), an approved sampling and analysis plan, .1632(a), and reports for each sampling event, .1632(j). The monitoring plan and sampling and analysis plan are part of the Transition Plan due by April 9, 1994. The initial sampling report is due by October 9, 1994.

* Initially required

FINANCIAL ASSURANCE CHECKLIST

Cost Estimate For Closure [.1628(b)(1)]

Financial Assurance For Closure (one of the following)

- Trust Fund [.1628(e)(1)(A)]
- Surety Bond [.1628(e)(1)(B)]
- Letter of Credit [.1628(e)(1)(C)]
- Insurance [.1628(e)(1)(D)]
- Local Government Financial Test [.1628(e)(1)(F)]
- Capital Reserve Fund [.1628(e)(1)(I)]

Cost Estimate For Post-Closure Care [.1628(c)(1)]

Financial Assurance For Post-Closure Care (one of the following)

- Trust Fund [.1628(e)(1)(A)]
- Surety Bond [.1628(e)(1)(B)]
- Letter of Credit [.1628(e)(1)(C)]
- Insurance [.1628(e)(1)(D)]
- Local Government Financial Test [.1628(e)(1)(F)]
- Capital Reserve Fund [.1628(e)(1)(I)]